REMARKS

Applicant thanks Examiner Kimberly Locket for the outstanding Office Action dated November 19, 2004. Applicant respectfully requests reconsideration and allowance of the subject application. New claims 60-63 are added. Accordingly, claims 40-63 are pending.

Claim for Priority

The present application (10/930,279) is a national stage application filed under 35 USC § 371. Applicant requests acknowledgment that the present application has met the requirements of 35 USC § 371 and that the filing date is the international filing date of PCT application PCT/US98/20376, filed on 10/29/1998.

Request For Reconsideration

I. Obvious Type Double Patenting Rejection

Claims 40-53 were rejected under the judicially-created doctrine of obviousness-type double patenting as being unpatentable over all the claims of US Patent 6,563,034 and US Patent 5,986,191. Applicant respectfully traverses these grounds for rejection.

The Examiner has the burden to show that (1) the inventions claimed (2) are not patentably distinct and (3) are based on a prima facie showing of obviousness. This analysis must be based on what the claim defines and not on the claim language itself, as required by the Federal Circuit:

> [I]t is important to bear in mind that comparison can be made only with what invention is *claimed* in the earlier patent, paying careful attention to the rules of claim interpretation to determine what invention a claim *defines* and not looking to the claim language for anything that happens to be mentioned in it as though it were a prior art reference. ... [W]hat is claimed is what is *defined by the claim taken as a whole*, every claim limitation ... being material. *General Foods Corp. V. Studiengesellschaft Kohle mbH*, 972 F.2d 1272, 23 USPQ 2d, 1839, 1845 (Fed. Cir. 1992). (emphasis in original.)

Applicant respectfully submits that the Office Action has not made a prima facie case of judicially-created obviousness-type double patenting because the Examiner did

not consider the US Patent 6,563,034 claims as a whole. Instead, the Examiner picked certain elements of the US Patent 6,563,034 claims to combine with US Patent 5,986,191 while ignoring other elements of the US Patent 6,563,034 as if the US Patent 6,563,034 claims were a prior art reference, which is expressly prohibited by the doctrine of non-statutory double patenting. For example, the Examiner ignored the "separate means ...additional contact point for gripping said at least one of said strings" elements in the 6,563,034 claims, which are not present in applicant's claims.

Assuming, arguendo, that we accept the examiner's assertion as to the differences between the instant invention and the art of record. The examiner points to column 2, lines 46-48, of either US Patent 6,563,034 or US Patent 5,986,191 for a disclosure of the "unitary component." The unitary component, however, is not disclosed at the reference point mentioned by the examiner. In fact, the unitary component as claimed is not disclosed in either of the cited patents. The examiner has not made a prima facie case of judicially-created obvious-type double patenting.

Therefore, since the claims of US Patent 6,563,034 have one or more element not found in the present claims, the double patenting rejection should be withdrawn. Alternatively, since the unitary component is not disclosed in either US Patent 6,563,034 or US Patent 5,986,191 the double patenting rejection should be withdrawn.

II. Same Invention Double Patenting Rejection

Claims 54-59 are rejected as being drawn to the same invention as claims 1-12 of US Patent 5,965,831.

In determining whether a statutory basis for a double patenting rejection exists, the question to be asked is: Is the same invention being claimed twice? 35 USC 101 prevents two patents from issuing on the same invention. "Same invention" means identical subject matter. Miller v. Eagle Mfg. Co., 151 U.S. 186 (1984); In re Vogel, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and In re Ockert, 245 F.2d 467, 114 USPQ 330 (CCPA 1957). A reliable test for double patenting under 35 USC. 101 is whether a claim in the application could be literally infringed without literally infringing a corresponding claim in the patent. In re Vogel, 422 F.2d 438, 164 USPQ 619 (CCPA 1970).

Claims 54-59 of the instant invention recite "one string anchor on opposite side of at least one said second critical point from said first critical point is located a critical distance from said second critical point such that said at least one string is rendered substantially inextensible." The claims of US Patent 5,965,831 do not recite such an element nor is it required to practice the instant invention.

Therefore, since a literally infringed claim in the application does not lead to a literally infringed claim in the patent using the holding of In re Vogel a statutory determination of double patenting cannot be sustained.

Amended Claims

Pending claims 40, 43, 45-54, 56, 58, 59 are amended to improve the readability of the claims. Pending claims 40-42 46, 50, 54-59 are amended to change means-for-function aspects to apparatus aspects.

New Claims

New claims 60-63 are added. Independent claim 60 includes a fulcrum tremolo that includes ball bearings at a pivot point, the pivot axis of the bearings intersecting the vertical axis of the adjustment screw which connects the fulcrum tremolo to the instrument body. Claim 61 additionally includes two sets of multiple ball bearings each set being positioned between a second critical point and the adjustment screw. Independent claim 62 includes a fulcrum tremolo that includes ball bearings at a pivot point, a vertical axis of an adjustment screw being between the fulcrum pivot axis and a first critical point. Claim 63 additionally includes two sets of multiple ball bearings each set being positioned between a second critical point and the adjustment screw. Claims 60-30 are in a condition for allowance.

Conclusion

All pending claims 40-63 are in condition for allowance. Applicant respectfully requests reconsideration and prompt issuance of the subject application. If any issues remain that prevent issuance of this application, the Examiner is urged to contact the undersigned applicant before issuing a subsequent Action.

Respectfully Submitted,

Dated: May 3, 2004 By: _____

Michael Smith
Reg. #45,368

Certificate of Transmission

I hereby certify that this correspondence is being facsimile transmitted to the United States Patent and Trademark Office, Fax No. 571-273-1626 on May 3, 2004.

Typed or printed name of person signing this certificate:

Michael G. Smith

Signature: _____

Claim Listing under 37 C.F.R. 1.121(c):

Amend claims 40-43, 45-46, 50, 54-59 and add claims 60-63 as follows and in accordance with 37 C.F.R. 1.121(c), by which the Applicant submits the following marked up version, wherein the markings are shown by strikethrough (for deleted matter) and/or underlining (for added matter):

Version with markings to show changes made

Claims 1-39 (canceled).

Claim 40 (Currently amended) A stringed musical instrument comprising:

an elongated neck,

~~a~~and body attached to one end of ~~the~~ said neck,

a tremolo pivotably mounted on said body,

a plurality of strings with a first end and a second end,

~~means~~ on said neck, ~~for supporting and forming~~ a first critical point ~~for~~ on at least one of said strings,

~~said~~ tremolo further comprising: ~~including~~

bridge elements forming a support and a second critical point for at least one of said strings,

a string anchor ~~means~~ engaging said second end of said at least one of said strings,

a base plate,

a spring ~~attachment means~~, and

counter springs with a first end and a second end, said first end of said counter springs connected to said body and said second end of said counter springs secured to said spring ~~attachment means~~ for counter balancing the tension ~~of said~~ of said at least one of said strings,

wherein said base plate and said spring ~~attachment means~~ comprise:

~~an~~ unitary component formed from a single folded or bent plate material with a base plate portion and a spring ~~attachment means~~ portion so that said unitary component is connected directly to the ~~biasing~~ springs.

Claim 41 (Currently amended) An apparatus of claim 40 wherein said string anchor ~~means~~ is located in said ~~attachment means~~ portion.

Claim 42 (Currently amended) An apparatus of claim 41 wherein said string anchor ~~means~~ comprises at least one string passageway within said spring ~~attachment means~~ portion.

Claim 43 (Currently amended) An apparatus of claim 42 wherein said base plate portion comprises at least one string holes for threading said at least one of said strings and said at least one string passageway is aligned to said openings in said base portion.

Claim 44 (Original) An apparatus of claim 40 wherein said base plate portion is formed to create at least one tier for displacing the height of at least one said bridge elements relative to said body.

Claim 45 (Currently amended) An apparatus of claim 40 wherein said tremolo ~~is~~further comprises a fulcrum tremolo.

Claim 46 (Currently amended) An apparatus of claim 40 wherein said unitary component has at least one reinforcement ~~brace~~ arranged between said base plate portion and said spring ~~attachment means~~ portion.

Claim 47 (Currently amended) An apparatus of claim 46 wherein said unitary component is formed to create said at least one reinforcement ~~brace~~.

Claim 48 (Currently amended) An apparatus of claim 40 wherein said tremolo ~~includes~~further comprises a macro-tuner.

Claim 49 (Currently amended) An apparatus of claim 40 wherein said tremolo ~~includes~~further comprises a global-tuner.

Claim 50 (Currently amended) An apparatus of claim 45 wherein said fulcrum tremolo ~~including~~further comprises a bearing ~~means~~ for adjustably mounting said fulcrum tremolo on said body for pivotal displacement and said bearing ~~means~~ comprises at least a portion of a ball bearing surface.

Claim 51 (Currently amended) An apparatus of claim 42 wherein said tremolo ~~includes~~further comprises a global-tuner.

Claim 52 (Currently amended) An apparatus of claim 44 wherein said tremolo ~~includes~~further comprises a macro-tuner.

Claim 53 (Currently amended) An apparatus of claim 44 wherein said tremolo ~~includes~~further comprises a global-tuner.

Claim 54 (Currently amended) A stringed musical instrument comprising:

a body, ~~and~~

a neck extending outwardly from said body,

a plurality of strings extending from said body to said neck, said strings having a first end and a second end, said second end of said strings having an anchoring portion that is thicker than the diameter of said string,

~~means for forming~~ a first critical point for each of said strings on said neck,

~~means for forming~~ a second critical point for each of said strings on a fulcrum tremolo,

said fulcrum tremolo includes a base plate,

said base plate being pivotally mounted about a fulcrum axis extending transversely of said strings for changing the pitch of all said strings at one time as said base plate is pivoted,

a string anchor~~ing means for~~ to receiv~~ing~~ said anchoring portion located on said base,

~~means for varying the spacing between said first and second critical points for changing the harmonic tuning,~~

wherein ~~the improvement comprises that~~ at least one string anchor~~ing means~~ on opposite side of at least one said second critical point from said first critical point is located a critical distance from said second critical point such that said at least one string is rendered substantially inextensible between said second critical point and said string anchor~~ing means~~.

Claim 55 (Currently amended) An apparatus of claim 54 wherein said string anchor~~ing portion~~ further comprises wrappings and the length of said wrappings being slightly less than the distance between the second critical point and said string anchoring means.

Claim 56 (Currently amended) Tuning apparatus for a stringed musical instrument comprising:

a body,~~and~~

a neck extending outwardly from said body,

a plurality of strings extending from said body to said neck, said strings having a first end and a second end, said second end of said strings having an anchoring portion that is thicker than the diameter of said string,

~~means for forming~~ a first critical point for each of said strings on said neck,

~~means for forming~~ a second critical point for each of said strings on a fulcrum tremolo,

said fulcrum tremolo further comprises~~includes~~ a base plate, said base plate being pivotally mounted about a fulcrum axis extending transversely of said strings for changing the pitch of all said strings at one time as said base plate is pivoted,

~~separate means for~~a mounting of each of said strings on said base plate to ~~and for~~ raising and adjusting the tension of said strings from an untensioned condition to a proper playing pitch ~~including means for varying the spacing between said first and second critical points for changing the harmonic tuning~~, said ~~separate means for~~ mounting each of said strings has a bridge element forming said second critical point and

a string tensioner~~ing means~~ on opposite side of said bridge element from said first critical point disposed in a variably spaced relation to said second critical point over which each of said strings extends,

wherein said string tensioner~~ing means~~ has a string holder element,

said string holder element has a first portion closer to said second critical point and a second portion more remote from said second critical point,

said string holder element includes a restricted interior portion located closest said first end,

said string holder element ~~means~~ displaceable between a first limiting position closest said second critical point and a second limiting position more remote said second critical point,

said first end of said string holder element means in spaced relation from said second critical point in and between said first and second limiting positions,

said restricted portion of string holder element holds said string anchoring portion wherein said string anchoring portion is located a critical distance from said second critical point such that said at least one string is rendered substantially inextensible between said second critical point and said string anchoring means in said first limiting position.

Claim 57 (Currently amended) An apparatus of claim 56 wherein said anchoring portion comprise wrappings and the length of said wrappings being slightly less than the distance between the second critical point and said string anchoring means.

Claim 58 (Currently Amended) A stringed musical instrument comprising

an elongated neck and body attached to one end of the said neck,

a fulcrum tremolo,

a plurality of strings with a first end and a second end, said second end of said strings having an anchoring portion that is thicker than the diameter of said string,

means for forming a first critical point for each of said strings on said neck,

said fulcrum tremolo including bridge elements forming a support and a second critical point for at least one of said strings, means for varying the spacing between said first and second critical points for changing the harmonic tuning,

a string anchor means to engage~~ing~~ said second end of said at least one of said strings,~~ said fulcrum tremolo includes a base plate, said base plate being pivotally mounted about a fulcrum axis extending transversely of said strings for changing the pitch of all said strings at one time as said base plate is pivoted,~~

a spring~~ attachment means,~~

counter springs with a first end and a second end, said first end of said counter springs connected to said body and said second end of said counter springs secured to said spring to~~attachment means for~~ counter balance~~ing the~~ tension ~~of said~~ of said at least one of said strings,

said base plate and said spring~~attachment means~~ comprise ~~an~~ unitary component formed from a single folded or bent plate material with a base plate portion ~~and aattachment means~~ so that said unitary component is connected directly to the biasing springs, said string anchor ~~means~~ is located in said spring~~attachment means~~ portion, said string anchor ~~means~~ comprises at least one string passageway within said spring~~attachment means~~, said base plate portion comprises string holes for threading said at least one of said strings and said at least one string passageway is aligned to said openings in said base portion,

wherein ~~the improvement comprises~~ an alternate string anchor~~ing means~~ on opposite side of at least one said second critical point from said first critical point is located a critical distance from said second critical point such that said at least one string is rendered substantially inextensible between said second critical point and said string anchor~~ing means~~.

Claim 59 (Currently amended) An apparatus of claim 58 wherein said alternate string anchor~~ing means~~ comprises:

a separate ~~means for~~mount~~ing each~~ of said strings on said base plate to~~for~~ rais~~e~~ing and adjust~~ing the~~ tension of said strings from an untensioned condition to a proper playing pitch,

said separate mount~~means~~ includes a string tensioner~~ing means~~ on opposite side of said bridge element from said first critical point disposed in a variably spaced relation to said second critical point over which each of said strings extends, said string tensioner~~ing means~~ has a string holder element, said string holder element has a first portion closer to said second critical point and a second portion more remote from said second critical point, said string holder element includes a restricted interior portion located closest said first end, said string holder element ~~means~~ displaceable between a first limiting position closest said second critical point and a second limiting position more remote said second critical point, said first end of said string holder element ~~means~~ in spaced relation from said second critical point in and between said first and second limiting positions,

said restricted portion of string holder element holds said string anchoring portion wherein said string anchoring portion is located a critical distance from said second critical point such that said at least one string is rendered substantially inextensible between said second critical point and said string anchor~~ing means~~ in said first limiting position.

Claim 60 (New) A stringed musical instrument comprising:

a body,

a neck having a nut,

a least one string connected to the neck, said neck forming at least one first critical point for each of said at least one string,

a fulcrum tremolo having a base plate, said fulcrum tremolo forming at least one second critical point for each of said at least one string, the base plate having a first end closer to said first critical point, and a second end further from said first critical point, the fulcrum tremolo being connected to the at least one string.

at least one rod, having a portion forming a pivot axis transverse the axis of the at least one string and connected to the fulcrum tremolo,

the fulcrum tremolo having at least one bearing housing and at least one ring bearing located within said at least one bearing housing, at least one rod supporting said at least on ring bearing and therefore said at least one rod supporting at least bearing housing,

an adjustment screw associated with each of said at least one bearing housing, each adjustment screw adjustably supporting each of said at least one bearing housing, therefore supporting the fulcrum tremolo on the body,

each said adjustment screw having a vertical axis, and

each said adjustment screw being substantially aligned to said pivot axis so that said pivot axis intersects said vertical axis of each said adjustment screw.

Claim 61 (New) A stringed musical instrument of claim 60 wherein said at least one rod further comprises two portions extending outwardly from each other,

wherein at least one bearing housing further comprises at least two bearing housings,

wherein said at least one ring bearing further comprises at least two ring bearings in each of said at least two bearing housings,

wherein each of said two portions support said at least two ring bearings of each of said at least two bearing housings,

wherein each of said adjustment screws adjustably mounting each of said at least two bearing housings,

wherein one of said at least two ring bearings in each of said at least two bearing housings is located adjacent to said at least one second critical point relative to each said adjustment screw and the other of said at least two ring bearings adjacent said adjustment screw relative to said second critical point.

Claim 62 (New) A stringed musical instrument comprising:

a body,

a neck having a nut;

a least one string connected to the neck, said neck forming at least one first critical point for each of said at least one string;

a fulcrum tremolo having a base plate, said fulcrum tremolo forming at least one second critical point for each of said at least one string, the base plate having a first end closer to said fist critical point, and a second end further from said first critical point, the fulcrum tremolo being connected to the at least one string;

at least one rod, having a portion forming a pivot axis transverse the axis of the at least one string and connected to the fulcrum tremolo;

said fulcrum tremolo having at least one bearing housing and at least one ring bearing located within at least one bearing housing, at least one rod being supported by the at least on ring bearing; and

an adjustment screw adjustably supporting the at least one bearing housing and therefore supporting the fulcrum tremolo on the body, the adjustment screw having a vertical axis, the adjustment screw being positioned further from the nut than the pivot axis so that the pivot axis is between the vertical axis of the adjustment screw and the first critical point.

Claim 63 (New) A stringed musical instrument of claim 62 wherein said at least one rod further comprises at least two rods,

wherein at least one bearing housing further comprises at least two bearing housings,

wherein said at least one ring bearing further comprises at least two ring bearings in each of said at least two bearing housings,

wherein each of said two portions support said at least two ring bearings of each of said at least two bearing housings,

wherein each of said adjustment screws adjustably mounting each of said at least two bearings,

wherein one of said at least two ring bearings in each of said at least two bearing housings is located adjacent to said at least one second critical point

relative to each said adjustment screw and the other of said at least two ring bearings adjacent said adjustment screw relative to said second critical point.